UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/618,474	KURAUCHI, NOBUKAZU
	Examiner	Art Unit	
	JAMES LEIJA	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*04/28/2008*</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Arguments

Applicant's arguments, see page 2, filed on 04/28/2008, with respect to the Objection to the specification due to informalities, have been fully considered and are persuasive. The objection of the specification has been withdrawn.

Applicant's arguments, see page 2, filed on 04/28/2008, with respect to the Objection to claim 2 regarding the phrase "a transmission unit" being repeated, have been fully considered and are persuasive. The objection of claim 2 has been withdrawn.

Claims 1-20 are pending.

Applicant's arguments with respect to claims 1-9, 11, 13-14, 16, 18-20 have been considered but are moot in view of the new ground(s) of rejection. Applicant has amended claims to include new limitations and necessitated new grounds of rejection.

Applicant's arguments filed 04/28/2008 have been fully considered but they are not persuasive. Applicant on paged 17-20 recites arguments for claim 1, 10-17. However, for claims 10, 12, 15 and 17, arguments are not persuasive. As the argument recited are directed towards added limitations. Claims 10, 12, 15 and 17 do not include all the added limitations, as such, the arguments are moot.

The applicant argues, with respect to claims 10, 12, 15 and 17, Satoda does not teach "a first encoding unit applying interframe encoding processing to a plurality of

frames of moving image data, to generate **only** (emphasis added) interframe frame data for the video data".

However claim 10 recites "a second encoding unit ... to generate interframe encoded video data". Claim 15 recites "a second encoding unit ... to generate interframe encoded video data". Claim 17 recites "a first encoding step of applying interframe encoding ... to generate video data". As such, claims 10, 15 and 17 are read broader then the intentions of the applicants' arguments, which emphasize "... to generate **only** (emphasis added) interframe frame data...".

Claim 12 does not recite "interframe encoding". As such the applicants' arguments to this claim do not apply.

The applicant further argues, with respect to claims 10, 12, 15 and 17, that Satoda does not teach "an encoded video data generation unit connected to the first encoding unit and the second encoding unit to combine the substitute I frame data and the interframe frame data to form the video data"

Claim 10 and 12 does not recite "an encoded video data generation unit... ". As such the applicants' arguments to these claims do not apply.

Claim 15 recites "an encoded video data generation unit generating encoded video data from the intra frame encoded video data and the interframe encoded video data; and". As such arguments directed towards claim 15 are not persuasive, as Satoda in figure 1 element 30 [0132] lines 1-7 and [0133] lines 1-7 describes the two encoding units encoding a program, and synchronizing the data from the encoders to the viewer.

Claim 17 recites "a combing step of combining I frame data and interframe data to generate the video data;", which is captured as new limitation. Applicant's argument with respect to claim 17 has been considered but is moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10, 12, 15 and 17 are rejected under 35 U.S.C. 102(e) as being Satoda

(U.S Patent Application Publication 2002/0147980).

As per claim 10 Satoda teaches:

a video data transmission apparatus (Satoda see Abstract) that transmits video

data that has been compressed using motion compensation interframe prediction

(Satoda Paragraph [0122] Lines 1-10) to a plurality of reception terminals (Satoda Fig. 1

Elem. 40, with Paragraph [0105] Lines 5-10), comprising:

a first encoding unit (Satoda Fig. 5 Elem. 22) applying intraframe encoding

processing to a frame of moving image data, to generate intraframe encoded video data

(Satoda Paragraph [0122] Lines 1-7);

a second encoding unit (Fig. 5 Elem. 23) applying interframe encoding

processing to a frame of moving image data, to generate interframe encoded video data

(Paragraph [0122] Lines 1-10);

a video data generation unit (Fig. 1 Elem. 31) generating the video data from the intraframe encoded video data and the interframe encoded video data (Paragraph [0123] Lines 1-8); and

a transmission unit (Fig. 1 Elem. 32) operable to transmit the video data to the plurality of reception apparatuses (Paragraph [0108] Lines 4-9),

wherein when the transmission unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal (as during channel changes, see Paragraph [0114] Lines 1-7), the transmission unit transmits at least one frame's worth of the intraframe encoded video data (Paragraph [0123] Lines 1-8) to the reception terminal as substitute I frame data before resuming transmission of the video data (Paragraph [0133] Lines 1-7)

As per claim 12 Satoda teaches:

a distribution server (Satoda Fig. 1 Elem. 10) in a video data transmission/reception system (Satoda see Abstract) that further includes a plurality of video data provision apparatuses (Satoda Fig. 1 Elem. 20 with Paragraph [0109] Lines 1- 6) and a plurality of reception terminals (Satoda Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10), the video data provision apparatuses transmitting video data that has been compressed using motion compensation interframe prediction (Satoda Paragraph [0122] Lines 1-10), each reception terminal receiving video data from any one of the video data provision apparatuses (Satoda Paragraph [0105] Lines 1~10 and

Paragraph [0108] Lines 1-9), and the distribution server conveying the video data

between the video data provision apparatuses and the reception terminals (Satoda

Paragraph [0108] Lines 1-9), the distribution server comprising:

a switch request reception unit (Satoda Fig. 1 Elem. 30) receiving a request from

one of the reception terminals to switch video data received by the reception terminal to

different video data (Satoda Fig. 1 Elem. 33 with paragraph [0108] Lines 1-9); and

a switch transmission unit (Satoda Fig. 1 Elem. 31) stopping transmission of the

video data being transmitted to the request-originating user terminal (Satoda Paragraph

[0123] Lines 1-4, note switching to a different video source includes breaking off from

the previous source), obtaining substitute I frame data from a video data provision

apparatus that is to provide the different video data (Satoda Paragraph [0132] Lines 1-

3), transmitting the obtained substitute I frame data to the user terminal (Satoda

Paragraph [0132] Lines 2-4), and transmitting the different video data to the user

terminal, (Satoda Paragraph [0132] Lines 4-7) when the switch request reception unit

receives the request from one of the reception terminals. (Satoda Paragraph [0123]

Lines 1-4)

As per claim 15 Satoda teaches:

an encoder (Satoda Fig. 1 Elem. 10) that compresses moving image data using

motion compensation interframe prediction (Satoda Fig. 1 Elem. 20, with Paragraph

[0122] Lines 6-10, note Paragraph [0121]), comprising:

a first encoding unit (Satoda Fig. 5 Elem. 22) applying intraframe encoding

processing to a frame of moving image data, to generate intraframe encoded video data

(Satoda Paragraph [0122] Lines 1-6);

a second encoding unit(Satoda Fig. 5 Elem. 23) applying interframe encoding

processing to a frame of moving image data, to generate interframe encoded video data

(Satoda Paragraph [0122] Lines 6-10);

an encoded video data generation unit (Satoda Fig. 1 Elem. 30) generating

encoded video data from the intraframe encoded video data and the interframe encoded

video data (Satoda Paragraph [0132] Lines 1-7 and Paragraph [0133] Lines 1-7); and

a substitute data generation unit (Satoda Fig. 1 Elem. 31) generating substitute I

frame data from the intraframe encoded video data (Satoda Paragraph [0132] Lines 1-4

and Paragraph [0133] Lines 1-7).

As per claim 17 Satoda teaches:

A computer readable medium embodying a program executable in a computer,

(see Paragraph [0154]) the program causing the computer to perform a video data

transmission method (see abstract) used by a transmission-side apparatus (Fig. 1 Elem.

10) in a video data transmission/reception system (Fig. 1) in which the transmission-

side apparatus that transmits video data that has been compressed using motion

compensation interframe prediction (Paragraph [0122] Lines 1-10), and a plurality of

reception terminals receive the video data (Paragraph [0105] Lines 5-10, and Paragraph

[0123] Lines 1-8) and decode the received video data (Paragraph [0133] Lines 1-7), the

method comprising:

a first encoding step (Paragraph [0122] Lines 6-10) of applying interframe

encoding processing to a plurality of frames of moving image data, to generate the

video data (Paragraph [0122] Lines 6-10 and Paragraph [0129] Lines 1-5);

a second encoding step (Paragraph [0122] Lines 1-4) of applying, in parallel with

the first encoding step (note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe

encoding processing to each of a plurality of frames of the moving image data, to

generate substitute I frame data (Paragraph [0122] Lines 1-4, and paragraph [0132]

Lines 1-4);

a combining step of combining I frame data and interframe frame data to

generate the video data; (Satoda Fig 1 element 31, [0131]-[0132])

a video data transmission step of transmitting the video data to a reception-side

apparatus (Fig. 1 Elem. 32 with Paragraph [0108] Lines 4-9);

a transmission interruption step of interrupting transmission of the video data to

the reception-side apparatus (Paragraph [0114] Lines 1-6, note a channel change

involves breaking communication with a current encoding unit {Elem. 22} in order to

connect with different encoding unit {Elem. 22}, see Paragraphs [0130-0131]);

a substitute data transmission step of transmitting at least one frame's worth of

the substitute I frame data to the reception terminal (Paragraph [0132] Lines 1-5); and

a video data retransmission step of resuming transmission of the video data to

the reception terminal (Paragraphs [0137-0138]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 11, 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being Satoda

(U.S Patent Application Publication 2002/0147980) in view of Muller (USPN 6,031,574).

As per claim 1 Satoda teaches:

a video data transmission/reception system (Satoda see Abstract) comprising a

transmission-side apparatus (Satoda Figure 1 Element 10) and a plurality of reception

terminals (Satoda Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10), the transmission-

side apparatus transmitting video data that has been compressed using motion

compensation interframe prediction (Satoda Paragraph [0122] Lines 1-10), and the

reception terminals receiving the video data and decoding the received video data

(Satoda Paragraph [0113]), wherein the transmission-side apparatus includes:

Satoda teaches a first encoding unit (Satoda Fig. 5 Elem. 23) applying interframe

encoding processing to a plurality of frames of moving image data, (Satoda Paragraph

[0122] Lines 6-10);

But is silent on a first encoding unit to generate only interframe frame data for the

video data.

Muller teaches a first encoding unit to generate only interframe frame data for the
video data. (Muller fig 1 and 2 element K1 column 5 lines 16-25)

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify the first encoding unit of Satoda by generating
only interframe data as taught by Muller in order to provide an uncoupling between the
coding of an intraframe encoder and interframe encoder.

a second encoding unit (Satoda Fig. 5 Elem. 22) operable to apply, in parallel
with the encoding processing by the first encoding unit (Satoda Fig. 5, note Elements 22
and 23 are in parallel), intraframe encoding processing to a frame of the moving image
data, to generate substitute I frame data for the video data (Satoda Paragraph [0122]
Lines 1-6, and Paragraph [0133] Lines 1-7); and

and encoded video data generation unit (Satoda Fig 1 element 31) connected to
the first encoding unit ant the second encoding unit to combine the substitute I frame
data and the interframe data to form the video data; and (Satoda Fig 1 element 31 page
7 [0131]-[0132])

a transmission unit transmitting the video data and the substitute I frame data to
the plurality of reception terminals (Satoda Fig. 1 Elem. 32 with Paragraph [0108]),
wherein when the transmission unit is to resume transmission of the video data to one
of the reception terminals after temporarily interrupting transmission of the video data to

the reception terminal (Satoda Paragraph [0157] Lines 1-7, and also Paragraph [0108]

Lines 1-9, note a channel change interrupts the video data), the transmission unit

transmits at least one frame's worth of the substitute I frame data to the reception

terminal (Satoda Paragraph [0108] Lines 4-9) before resuming transmission of the video

data (Satoda Paragraph [0123] Lines 18), and

the reception terminal, when the transmission unit is to resume the temporarily

interrupted transmission of the video data, receives the transmitted substitute I frame

data, decodes the received substitute I frame data (Satoda note Fig. 1 Elem. 42), and

uses the decoded substitute I frame data as reference frame data to decode video data

that is received after resumption of transmission (Satoda Paragraph [0133] Lines 1-7).

As per claim 11 Satoda teaches:

a video data transmission/reception system (Satoda see Abstract) comprising a

plurality of video data provision apparatuses (Satoda Fig. 1 Element 20 with Paragraph

[0109] Lines 1-6), a plurality of reception terminals (Satoda Fig. 1 Elem. 40, with

Paragraph [0105] Lines 5-10), and a distribution server (Satoda Fig. 1 Elem. 10, note

Satoda teaches data provision apparatuses external to the distribution server, see Fig. 7

and Paragraph [0146]), the video data provision apparatuses transmitting video data

that has been compressed using motion compensation interframe prediction (Satoda

Fig. 5 Elem. 20a with Paragraph [0122] Lines 1-10), each reception terminal receiving

the video data from any one of the video data provision apparatuses (Satoda Paragraph

[0105] Lines 1-10) and decoding the received video data (Satoda Paragraph [0113]

Lines 1-7), and the distribution server conveying the video data between the video data

provision apparatuses and the reception terminals (Satoda Paragraph [0104] Lines 1-4),

wherein each video data provision apparatus includes:

Satoda teaches a first encoding unit (Satoda Fig. 5 Elem. 23) applying interframe

encoding processing to each of a plurality of frames of moving image data, (Satoda

Paragraph [0122] Lines 6-10)

Satoda is silent on a first encoding unit to generate only interframe frame data for

the video data.

Muller teaches a first encoding unit to generate only interframe frame data for the

video data. (Muller fig 1 and 2 element K1 column 5 lines 16-25)

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the first encoding unit of Satoda by generating

only interframe data as taught by Muller in order to provide an uncoupling between the

coding of an intraframe encoder and interframe encoder.

a second encoding unit (Satoda Fig. 5 Elem. 22) applying in parallel with the

encoding processing by the first encoding unit (Satoda note in Fig. 5 that Elements 22

and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of

the moving image data, to generate substitute I frame data (Satoda Paragraph [0122]

Lines 1-6 and Paragraph [0129] Lines 1-5); and

and encoded video data generation unit (Satoda Fig 1 element 31) connected to

the first encoding unit ant the second encoding unit to combine the substitute I frame

data and the interframe data to form the video data; and (Satoda Fig 1 element 31

[0131]-[0132])

the distribution server includes:

a switch request reception unit (Satoda Fig. 1 Elem. 30) operable to receive a

request from one of the reception terminals to switch video data received by the

reception terminal to different video data (Satoda Paragraph [0108] Lines 1-9); and

a switch transmission unit (Satoda Fig. 1 Elem. 31) stopping transmission of the

video data being transmitted to the request-originating user terminal (Satoda Paragraph

[0123] Lines 1-4, note switching to a different video source includes breaking off from

the previous source), obtaining substitute I frame data from a video data provision

apparatus that is to provide the different video data (Satoda Paragraph [0132] Lines 1-

3), transmitting the obtained substitute I frame data to the user terminal (Satoda

Paragraph [0132] Lines 2-4), and transmitting the different video data to the user

terminal (Satoda Paragraph [0132] Lines 4-7), when the switch request reception unit

receives the request from one of the reception terminals. (Satoda Paragraph [0123]

Lines 1-4)

As per claim 13 Satoda teaches:

a video data provision apparatus (Satoda Fig. 1 Elem. 10) in a video data

transmission/reception system (Satoda see Abstract) that includes a plurality of video

data provision apparatuses (Satoda Fig. 1 Elem. 20 with Paragraph [0109] Lines 1-6), a

plurality of reception terminals (Satoda Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-

10), and a distribution server (Satoda Fig. 1 Elem. 30), the video data provision

apparatuses transmitting video data that has been compressed using motion

compensation interframe prediction (Satoda Paragraph [0122] Lines 1-10), each .

reception terminal receiving video data from any one of the video data provision

apparatuses (Satoda Paragraph [0105] Lines 1-10 and Paragraph [0108] Lines 1-9),

and the distribution server conveying the video data between the video data provision

apparatuses and the reception terminals (Satoda Paragraph [0108] Lines 5-9), the video

data provision apparatus comprising:

Satoda teaches a first encoding unit (Satoda Fig. 5 Elem. 23) applying interframe

encoding processing to each of a plurality of frames of moving image data, (Satoda

Paragraph [0122] Lines 6-10)

Satoda is silent on a first encoding unit to generate only interframe frame data for

the video data.

Muller teaches a first encoding unit to generate only interframe frame data for the

video data. (Muller fig 1 and 2 element K1 column 5 lines 16-25)

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the first encoding unit of Satoda by generating

only interframe data as taught by Muller in order to provide an uncoupling between the

coding of an intraframe encoder and interframe encoder.

a second encoding unit, (Satoda Fig. 5 Elem. 22) applying in parallel with the

encoding processing by the first encoding unit (Satoda note in Fig. 5 that Elements 22

and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of

the moving image data, to generate substitute I frame data (Satoda Paragraph [0122]

Lines 1-6, and Paragraphs [0132-0133]),

and encoded video data generation unit (Satoda Fig 1 element 31) connected to

the first encoding unit ant the second encoding unit to combine the substitute I frame

data and the interframe data to form the video data; and (Satoda Fig 1 element 31

[0131]-[0132])

a transmission unit (Satoda Fig. 1 Elem. 31) transmitting the video data to the

distribution server (Satoda Paragraph [0108] Lines 4-9), and, when one of the reception

terminals requests to switch video data being received to the video data being

transmitted by the transmission unit (Satoda Paragraph [0108] Lines 1-9), transmit at

least one frame of substitute I frame data to the reception terminal via the distribution

server (Satoda Paragraph [0108] Lines 4-9), before the switch (Satoda Paragraph

[0123] Lines 1-8 and Paragraph [0132] Lines 1-7, note an initial I-frame is transmitted

prior to switching to the interframe encoding of Fig. 5 Element 23).

As per claim 14 Satoda teaches:

an encoder (Satoda Fig. 5) that compresses moving image data using motion compensation interframe prediction (Satoda Paragraph [0122] Lines 6-10), comprising:

Satoda teaches a first encoding unit (Satoda Fig. 5 Elem. 23) applying interframe encoding processing to each of a plurality of frames of moving image data, (Satoda Paragraph [0122] Lines 6-10)

Satoda is silent on a first encoding unit to generate only interframe frame data for the video data.

Muller teaches a first encoding unit to generate only interframe frame data for the video data. (Muller fig 1 and 2 element K1 column 5 lines 16-25)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first encoding unit of Satoda by generating only interframe data as taught by Muller in order to provide an uncoupling between the coding of an intraframe encoder and interframe encoder.

a second encoding unit, (Satoda Fig. 5 Elem. 22) applying in parallel with the encoding processing by the first encoding unit (Satoda note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data (Satoda Paragraph [0129] Lines 1-5, and paragraphs [0132-0133]); and

and encoded video data generation unit (Satoda Fig 1 element 31) connected to the first encoding unit ant the second encoding unit to combine the substitute I frame data and the interframe data to form the video data; and (Satoda Fig 1 element 31 [0131]-[0132])

As per claim 16 Satoda teaches:

a video data transmission/reception method (Satoda see Abstract) used by a

transmission-side apparatus (Satoda Fig. 1 Elem. 10) and one of a plurality of reception

terminals (Satoda Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10) in a video data

transmission/reception system (Satoda Fig. 1) in which the transmission-side apparatus

that transmits video data that has been compressed using motion compensation

interframe prediction (Satoda Paragraph [0122] Lines 1-10), and the plurality of

reception terminals receive the video data (Satoda Paragraph [0123] Lines 1-8) and

decode the received video data (Satoda Paragraph [0133] Lines 1-7), the method

comprising:

a first encoding step (Satoda Paragraph [0122]), in the transmission-side

apparatus (Satoda note the configuration of Fig. 1 Elements 10 and 20), of applying

interframe encoding processing to a plurality of frames of moving image data,

Satoda is silent on the first encoding step to generate only interframe frame data

for the video data.

Muller teaches a first encoding step to generate only interframe frame data for

the video data. (Muller fig 1 and 2 element K1 column 5 lines 16-25)

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the first encoding step of Satoda by generating

only interframe data as taught by Muller in order to provide an uncoupling between the

coding of an intraframe encoder and interframe encoder.

a second encoding step (Satoda Paragraph [0122] Lines 1-4), in the

transmission- side apparatus (Satoda note the configuration of Fig. 1 Elements 10 and

20), of applying, in parallel with the first encoding step (Satoda note in Fig. 5 that

Elements 22 and 23 are in parallel), intraframe encoding processing to each of a

plurality of frames of the moving image data, to generate substitute I frame data (Satoda

Paragraph [0122] Lines 1-4, and paragraph [0132] Lines 1-4);

a combining step of combining I frame data and interframe frame data to

generate the video data; (Satoda Fig 1 element 31, [0131]-[0132])

a video data transmission step, in the transmission-side apparatus, of

transmitting the video data to a reception-side apparatus (Satoda Fig. 1 Elem. 32 with

Paragraph [0108] Lines 4-9);

a transmission interruption step, in the transmission-side apparatus, of

interrupting transmission of the video data to the reception-side apparatus (Satoda

Paragraph [0114] Lines 1-6, note a channel change involves breaking communication

with a current encoding unit {Elem. 22} in order to connect with different encoding unit

{Elem. 22}, see Paragraphs [0130-0131]);

a substitute data transmission step, in the transmission-side apparatus, of

transmitting at least one frame's worth of the substitute I frame data to the reception

terminal (Satoda Paragraph [0132] Lines 1-5);

a substitute data decoding step, in the reception terminal, of decoding the

substitute I frame data (Satoda Paragraph [0133] Lines 1-7);

a video data retransmission step, in the transmission side apparatus, of resuming

transmission of the video data to the reception terminal (Satoda Paragraphs [0137-

0138]); and

a video data decoding step, in the reception terminal, of decoding the video data

received after resumption of transmission, using data obtained as a result of executing

the substitute data decoding step, as reference frame data (Satoda Paragraph [0139]

Lines 1-9).

Claims 2-9 and 19 are rejected under 35 U.S.C. 103(a) as being Kunkel et al.

(USPN 7,100,183) in view of Satoda (U.S Patent Application Publication 2002/0147980)

and Muller (USPN 6,031,5740).

As per claim 2 Kunkel teaches:

a video data transmission apparatus (Kunkel Fig. 1 with Col. 3 Lines 4-9) that

transmits video data that has been compressed using motion compensation interframe

prediction (Kunkel Col. 3 Lines 31-35) to a plurality of reception terminals (Kunkel Fig. 1

Elements 16, 27 and 29, with Col. 3 Lines 50-57), comprising:

a transmission unit transmitting the video data and the substitute I frame data to

the plurality of reception terminals (Kunkel Fig. 1 Elements 12 with Col. 4 Lines 26-33,

with Col. 7 Lines 14-17), and when the transmission unit is to resume transmission of

the video data to one of the reception terminals after temporarily interrupting

transmission of the video data to the reception terminal (Kunkel Col. 7 Lines 10-14),

the transmission unit transmits at least one frame's worth of the substitute I frame

data to the reception terminal before resuming transmission of the video data (Kunkel

Col. 7 Lines 8-17, note I frames are provided during the transition from a targeted

advertisement to the original programming),

Kunkel further teaches:

the transmission side apparatus receives source video programming that is either

in an analog or digital format (Kunkel Col. 3 Lines 31-35)

Kunkel does not teach:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data; and

a second encoding unit operable to apply, in parallel with the encoding processing by the first encoding unit, intraframe encoding processing to a frame of the moving image data, to generate substitute I frame data;

Satoda teaches:

a first encoding unit (Satoda Fig. 5 Elem. 23) applying interframe encoding processing to each of a plurality of frames of moving image data, (Satoda Paragraph [0122] Lines 6-10);

But Satoda is silent on a first encoding unit to generate only interframe frame data for the video data.

Muller teaches a first encoding unit to generate only interframe frame data for the video data. (Muller fig 1 and 2 element K1 column 5 lines 16-25)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first encoding unit of Satoda by generating only interframe data as taught by Muller in order to provide an uncoupling between the coding of an intraframe encoder and interframe encoder.

a second encoding unit (Fig. 5 Elem. 22) applying in parallel with the encoding

processing by the first encoding unit (Fig. 5, note Elements 22 and 23 are in parallel),

intraframe encoding processing to a frame of the moving image data, to generate

substitute I frame data for the video data(Paragraph [0122] Lines 1-6, and Paragraph

[0133] Lines 1-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the video transmission device of Kunkel by a first

encoding unit generating only interframe data, in parallel with a second encoding unit

applying only I frames (intra-coded) frames as taught by Satoda and Muller in order to

provide a smooth transition between broadcast and targeted video streams.

and encoded video data generation unit (Satoda Fig 1 element 31) connected to

the first encoding unit ant the second encoding unit to combine the substitute I frame

data and the interframe data to form the video data; and (Satoda Fig 1 element 31

[0131]-[0132])

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the video transmission device of Kunkel an

encoded video data generation unit to connect the first and second encoding units as

taught by Satoda in order to provide a synchronization between the outputs of the first

and second encoder.

As per Claim 3 Kunkel in view of Satoda and Muller teach the video data transmission apparatus of Claim 2, further comprising:

an option data transmission unit transmitting option video data to the reception terminal (Kunkel Fig. 1 Elements 12 and 46; with Col. 4 Lines 65-67 through Col. 5 Lines 1-6, and Col. 5 Lines 40-48), in parallel with the transmission of the video data (Kunkel Fig. 1 Elements 14, 18, 42 and 16; with Col. 3 Lines 7-11, note the multiple parallel downstream channels dedicated to a single set top box),

wherein the interruption of video data transmission to the reception terminal is caused by the transmission of the option video data (Kunkel Col. 6 Lines 16- 22, and Col. 7 Lines 10-17).

As per claim 4 Kunkel in view of Satoda and Muller teach the video data transmission apparatus of Claim 3, wherein the option data transmission unit includes:

an information collection sub-unit (Kunkel Fig. 1 Elements 16, 19 and 20) collecting , from each of one or more of the reception terminals, information about preferences of a user of the reception terminal (Kunkel Col. 3 Lines 21-28 with Col. 4 Lines 13-20), and

based on the collected information, selects contents of option data to be transmitted (Kunkel Col. 4 Lines 47-50 and Col. 5 Lines 58-61).

As per claim 5 Kunkel in view of Satoda and Muller teach the video data transmission apparatus of Claim 3, wherein the transmission unit includes:

a broadcast transmission sub-unit broadcasting a same data to a plurality of transmission destinations (Kunkel Fig. 2A Elem. 48 with Col. 5 Lines 54-67 through Col. 6 Lines 1-8); and

an individual transmission sub-unit transmitting individual data to an individual transmission destination (Kunkel Fig. 2A Elem. 50 with Col. 5 Lines 54-61), and

wherein the broadcast transmission sub-unit transmits the video data (Kunkel Col. 5 Lines 40-44 and 61-65), and the individual transmission sub-unit transmits the substitute I frame data (Kunkel Col. 7 Lines 10-17, note Kunkel teaches that I frames must be sent at the beginning of a target ad, and Satoda teaches that the second encoding unit provides dedicated I frames), and

the option data transmission unit transmits the option video data in an individual transmission manner (Kunkel Col. 5 Lines 54-65).

As per Claim 6 Kunkel in view of Satoda and Muller teach the video data transmission apparatus of Claim 5, wherein the transmission unit includes

a switch sub-unit (Kunkel Fig. 2A Elem. 52) exempting a reception terminal to which substitute I frame data or option video data is being transmitted from being a target of transmission of the video data by the broadcast transmission sub-unit (Kunkel Col. 6 Lines 9-26, note the PID information is used to exempt a targeted ad recipient from receiving the default ad).

As per Claim 7 Kunkel in view of Satoda and Muller teach the video data transmission apparatus of Claim 3, wherein the option data transmission unit includes

an insertion sub-unit transmitting secondary option data part way through transmission of the option data (Kunkel: Fig. 1 Elem. 40; with Col. 4 Lines 33-39, 47-50 and 65-67, and Col.5 Lines 1-6); and

a third encoding sub-unit (Satoda: Fig. 4 Elements10a and 20a-20a illustrates the use of multiple "contents input unit", each "contents input unit" has multiple encoders) generating option data substitute I frame data that corresponds to at least one frame of the option data starting from a frame that is a first frame after transmission resumption, after transmission of the secondary option data ends and before transmission of the option data resumes, (Kunkel: Col. 7 Lines 14-17, note Kunkel teaches that I frames are needed when acquiring an original video stream),

wherein when transmission of the option data is to resume after the transmission of the secondary option data ends, the option data transmission unit transmits the option data substitute I frame data to the reception terminal before transmission of the option data resumes (Kunkel: Col. 7 Lines 13-17).

As per Claim 8 Kunkel in view of Satoda and Muller teach the video data transmission apparatus of Claim 2, wherein the first encoding unit and the second encoding unit are realized in separate encoders (Satoda Fig. 5 Elements 20a, 22 and 23).

As per Claim 9 Kunkel in view of Satoda and Muller teach the video data

transmission apparatus of Claim 2, wherein

the transmission unit determines how many frames of substitute I frame data to

transmit to the reception terminal before resuming transmission of the video data

(Satoda Paragraph [0132] Lines 1-7), based on a GOP structure of the video data, and

in particular, based on a frequency of appearance of frames having an I attribute

or

a P attribute (Satoda Paragraph [0135] Lines 1-7, note Satoda teaches a substitute I

frame is transmitted to a user terminal if the interframe encoder is outputting a P frame;

however if the interframe encoder is outputting an I frame the substitute I frame is not

needed, and thus is not transmitted).

As per claim 19 Kunkel in view of Satoda and Muller teach the video data

transmission apparatus of Claim 2 further comprising means for storing substitute I

frame data from the second encoding unit for transmission to the transmission unit.

(Muller Fig 2 and 3, element "memory {MEMO}", column 1 lines 55-58)

Claim 18 is rejected under 35 U.S.C. 103(a) as being Satoda (U.S Patent

Application Publication 2002/0147980) in view of Muller USPN 6,031,574 and Kunkel et

al. (USPN 7,100,183)

As per claim 18 Satoda in view of Muller teach the video data transmission

apparatus of Claim 1 further comprising

a substitute I frame buffer (Muller Fig 2 and 3, element

"memory{MEMO}")connected to the second encoding unit and the transmission unit to

store substitute I frame data, ((Muller Fig 2 and 3, illustrate the memory connected to

the intraframe encoder and sending-receiving unit thought the control unit.)

Satoda teaches wherein the transmission unit transmitting video data (Fig. 1

Elem. 32 with Paragraph [0108])

Satoda is silent on transmits at least one frame's worth of the substitute I frame

data to the reception terminal before resuming transmission of the video data using

substitute I frame data stored in the substitute I frame buffer.

Kunkel teaches transmits at least one frame's worth of the substitute I frame data

to the reception terminal before resuming transmission of the video data. (Kunkel, Col. 7

Lines 8-17, I frames are provided during the transition from a targeted advertisement to

the original programming),

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the transmission unit of Satoda by transmitting I-

frames during the transition as taught by Kunkel in order to quickly reacquire the original

channel.

Satoda and Kunkel are silent on using substitute I frame data stored in the

substitute I frame buffer.

Muller teaches using substitute I frame data stored in the substitute I frame

buffer. (Muller column 4 line 6-17)

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the video data of Satoda and Kunkel by using

substitute I frame data stored in the substitute I frame buffer as taught by Muller in order

to selection of the channel by the user.

Claim 20 is rejected under 35 U.S.C. 103(a) as being Satoda (U.S Patent

Application Publication 2002/0147980) in view of Muller (USPN 6,031,574) and Sporer

(Pub No.: US 2001/024472)

As per claim 20 Satoda in view of Muller teach the video data transmission

apparatus of Claim 1 wherein the interframe data comprise P frame data ()

Satoda and Miller are silent on B frame data.

Sporer teaches interframe data comprise P frame data and B frame data. (Sporer

page 1 [0005])

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the interframe data of Satoda and Muller by

comprising P and B frame data as taught by Sporer in order compute predictive errors.

Conclusion

1.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES LEIJA whose telephone number is (571)270-5249. The examiner can normally be reached on M-F 730 am to 5pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANDREW Y. KOENIG can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. L./
Examiner, Art Unit 2623

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2623